

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A system for producing a signal for characterizing tissue and to correct for optical fluctuations, consisting of:
  - laser means for generating
  - an emission signal and
  - a reference signal,
  - a probe with a needle that is inserted into the tissue and that directs said emission signal to the probe and through the needle to the tissue for characterizing the tissue,
  - an emission optical detector,
  - a reference optical detector,
  - a transmission system including an emission optical fiber connected to said laser means, to said probe, to said needle, and to said emission optical detector that transmits said emission signal to said probe, to said needle, and from said probe to the tissue for characterizing the tissue, and from the tissue to said needle, to said probe and to said emission optical detector, and
  - a reference optical fiber connected to said laser means, to said probe, and to said reference optical detector that transmits said reference signal to said probe and from said probe to said reference optical detector, and
  - a compensation system that utilizes said reference signal to correct said emission signal and producing a signal for characterizing the tissue for the optical fluctuations.
2. (Currently Amended) The system for producing a signal for characterizing tissue of claim 1, wherein said laser means generates an emission signal that is an optical emission signal.

3. (Currently Amended) The system for producing a signal for characterizing tissue of claim 2, wherein said laser means generates a reference signal that is an optical reference signal and said optical reference signal is less than 10% of said optical emission signal.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The system for producing a signal for characterizing tissue of claim 1, wherein said laser means includes an optical splitter that splits said emission signal and said reference signal.

9. (Currently Amended) The system for producing a signal for characterizing tissue of claim 1, wherein said compensation system utilizes said reference signal to correct said emission signal for optical fluctuations by reducing the effects of emission signal source fluctuations.

10. (Currently Amended) The system for producing a signal for characterizing tissue of claim 1, wherein said compensation system utilizes said reference signal to correct said emission signal for optical fluctuations by compensating for changes in transmission system efficiency.

11. (Currently Amended) The system for producing a signal for characterizing tissue of claim 1, wherein said compensation system utilizes said reference signal to correct said emission signal for optical fluctuations by reducing the effects of emission signal source fluctuations and compensating for changes in transmission system efficiency.

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)